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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SPOONER, LAMONT M

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/585,320

Applicant(s)

DECARY, MICHEL

Examiner

Lamont M Spooner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 17, 19-24 and 37-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38-48 is/are allowed.
- 6) ☒ Claim(s) 1, 6, 7, 17, 19-24 and 37 is/are rejected.
- 7) ☒ Claim(s) 2-5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to all claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 6, 7 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Heidorn et al. (herein referred to as Heidorn, US Patent No. 5,966,686).

As per **claims 1, 6, 7 and 37**, Heidorn discloses a natural language information extraction system for deriving information from a textual representation of a sentence, the sentence having a plurality of words, said system comprising:

a) an input for receiving data elements indicative of the textual representation of the sentence (Fig. 24 item 2402, C.8.lines 12-15);

b) a processing unit coupled to said input, said processing unit being operative for processing the textual representation of the sentence to derive (C.8.lines 1-30, Fig. 24):

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- i. a parse tree group including a plurality of parse trees and (C.4.lines 22-27);
- ii. at least one noun phrase associated to a semantic type (C.9.lines 37-54):
said processing unit being operative for processing said parse tree group and said at least one noun phrase associated to a semantic type on the basis of a set of information extraction rules to derive an information record the information record being indicative of a semantic representation of at least part of the sentence (C.9.lines 37-54);
- c) an output for releasing one or more data elements indicative of the information record (Fig. 24 item 2403).

4. Claims 17, and 19-24 are rejected under 35 U.S.C. 102(b) as being anticipated by van Zuijlen (US Patent No. 5,060,155 Oct. 22, 1991).

As per **claims 17, 23 and 24**, van Zuijlen discloses an apparatus for parsing a textual representation of a sentence to derive a parse tree group including a plurality of parse trees, the sentence including a plurality of words, the apparatus comprising:

- a) an input for receiving data elements indicative of the textual representation of the sentence (C.4.lines 15-30);
- b) a processing unit for processing the data elements indicative of the sentence to generate a parse tree group (C.3.lines 5-21), said processing unit being operative for:
 - i. generating a parse tree for each word in the sentence and adding each generated parse tree to the parse tree group (C.4.lines 15-30, Fig. 1a, 1b, C.3.lines 15-21, C.16.lines 8-23), wherein each parse tree in the parse tree group is formed of at

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least one node (Fig. 1a, 1b, C.3.lines 15-21, C.16.lines 8-23), and wherein all of the nodes that form the parse tree are associated to a word in the sentence (Fig. 1a, 1b, C.3.lines 15-21, C.16.lines 8-23);

- ii. generating a new parse tree on the basis of binary dependency rules applied to a given parse tree in the parse tree group (C.16.lines 40-61, Table 1, Fig. 11), the new parse tree resulting from a combination of the given parse tree and another parse tree from the parse tree group
- iii. adding the new parse tree to the parse tree group (Fig. 12);
- c) an output for releasing a signal indicative of the parse tree group (C.16.lines 62-68).

As per **claim 19**, van Zuijlen discloses all of the limitations of claim 18, upon which claim 19 depends. van Zuijlen further discloses:

- a) extracting a given parse tree from the parse tree group (Fig. 10-set of extracted parse trees, "man" parse tree), the given parse tree having a root node associated to a given word (Fig. 10, "man" parse tree);
- b) processing a second parse tree (Fig. 10, multiple parse trees, "bites" parse tree), the second parse tree having a root node (Fig. 10-, "bites"-parse tree) associated to a word that is a precursor to the given word (Fig. 10-"bites" is a precursor to "man") to derive a dependency data element (C.16.lines 41-60, Fig. 10, Fig. 11) resulting from a combination of the given parse tree and the second parse tree (Fig. 12);

c) combining the given parse tree (Fig. 10) and the second parse tree (Fig. 11) at least in part on a basis of the dependency data element (C.16.lines 60-65) to generate the new parse tree (Fig. 12).

As per **claim 20**, van Zuijlen discloses all of the limitations of claim 19, upon which claim 20 depends. van Zuijlen further discloses:

the given parse tree covers a first consecutive words in the sentence (Fig. 10-“man” parse tree and range, the second parse tree covering a second range of consecutive words in the sentence (Fig. 10-“bites”-parse tree and range), the second range of consecutive words being the immediate precursor of the first range of consecutive words in the sentence (Fig. 10-“bites” parse tree range contains words of an immediate precursor to “man” parse tree).

As per **claim 21**, van Zuijlen discloses all of the limitations of claim 18, upon which claim 21 depends. van Zuijlen further discloses:

a) extracting a given parse tree from the parse tree group (Fig. 10-set of extracted parse trees, “in” parse tree), the given parse tree having a root node associated to a given word (Fig. 10, “in” parse tree);

b) processing a second parse tree (Fig. 10, multiple parse trees, “park” parse tree), the second parse tree having a root node (Fig. 10-, “park”-parse tree) associated to a word that is a successor to the given word (Fig. 10-“in” is a successor to “park”) to derive a dependency data element (C.16.lines 41-60, Fig. 10, Fig. 11) resulting from a combination of the given parse tree and the second parse tree (Fig. 12);

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c) combining the given parse tree (Fig. 10) and the second parse tree (Fig. 11) at least in part on a basis of the dependency data element (C.16.lines 60-65) to generate a new parse tree (Fig. 12), the new parse tree forming the new parse tree (Fig. 12).

As per **claim 22**, van Zuijlen discloses all of the limitations of claim 17, upon which claim 22 depends. van Zuijlen further discloses:

- a) searching the parse tree group for a parse tree that matches the new parse tree (C.16.lines 34, 35);
- b) adding the new parse tree to the parse tree group if no matching parse tree is found at step a) (C.6.lines 51-61, Fig. 13).

Allowable Subject Matter

5. Claims 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 3-5, are dependent upon claim 2, and are objected to for the same reasons as set forth above.

7. Claims 38-48 are allowed.

8. The following is a statement of reasons for the indication of allowable subject matter:

As per **claims 2 and 38**, which are deemed to be a non-obvious improvement over the invention patented Heidorn by the incorporation of a parse tree group, wherein each parse tree in said parse tree group includes a word of the sentence and having dependency data element describing a syntactic relationship between at least two

words of the sentence, into determining a semantic representation of at least part of a sentence, has neither been anticipated nor found in obvious combination with the other cited prior art of record.

Claims 41-48 depend from the allowed parent claim 38, and therefore are allowed.

As per **claim 39**, which is deemed an non-obvious improvement over the invention patented by van Zuijlen by processing multiple lexical frames on the basis of a set of information extraction rules to derive an information record being indicative of a semantic representation of at least part of a sentence, has neither been anticipated nor found in obvious combination with any other cited prior art of record.

9. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

10. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Braden-Harder (US Patent No. 5,933,822 Aug. 3, 1999) teaches information records, which are combined into structures, which are

then combined through grammatical rules, to develop a syntactic parse tree, and determining semantic relationships between words, and generating an output signal according based upon a logical form graph.

- Kucera (US Patent No. 4,868,750 Sep. 19, 1989) teaches having a morphological analyzer for assigning to each word in a sentence a most likely morphological tag, and a syntactic processor coupled to the morphological analyzer for generating a parse tree group.
- Bhandari et al. (US Patent No. 5,895,464 Apr. 20, 1999) teaches recognizing a syntactic and semantic structure of a natural language input.
- Penteroudakis et al. (US Patent No. 6,651,220 filed May 3, 1999) teaches generating multiple sub-parse trees and combining them to form a single complete parse tree.
- Boguraev (US Patent 6,212,494 filed Jul. 20, 1998) teaches having lexical, syntactical and morphological information identified and extracted and determining a linguistic semantical representation of fragments in a domain.
- Black, Jr. et al. (US Patent No. 5,331,556 Jul. 19, 1994) teaches parse a text file, morphologically analyzing each word and assigning tags to each word, syntactically processing the words,

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and executing a semantic analysis to generate a semantic representation of at least part of a sentence.\

- Kugimiya (US Patent No. 5,587,902 Dec. 24, 1996) teaches having morphological, syntactical, and semantic analysis which utilizes a plurality of parsing trees in order to determine a semantic representation of at least part of a sentence.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

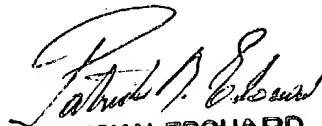
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lamont M Spooner whose telephone number is 703/305-8661. The examiner can normally be reached on 8:00 AM - 5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 703/305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lms
12/08/04


PATRICK N. EDOUARD
PRIMARY EXAMINER